



FORENSIC ANTHROPOLOGICAL ANALYSIS

MC25-081

TO: Graham Hetrick
Dauphin County Coroner's Office
1271 S 28th Street
Harrisburg, PA 17111

FROM: Joe Adserias-Garriga, D.D.S., Ph.D., D-ABFO, DLAF-cert.
Mercyhurst Forensic Anthropology Laboratory
Mercyhurst University
501 East 38th Street
Erie, PA 16546

RE: Dauphin County Case J-2025-11-0913; Forensic anthropological analysis of human remains discovered in a tent in Dauphin County, PA on November 20, 2025.

FINAL REPORT DATE: 12/23/2025

MERCYHURST FORENSIC ANTHROPOLOGY LABORATORY, MC25-081 SUMMARY	
■ Present □ Absent	RECOVERY: Human remains discovered outside in a tent in Dauphin County, PA. No formal recovery was conducted by Mercyhurst Forensic Scene Recovery Team (M-FSRT).
	BIOLOGICAL PROFILE: SEX: Male AGE: BROAD RANGE: 35-60 YRS NARROW RANGE: 40-55 YRS POPULATION AFFINITY: Black STATURE: 5'7" - 6'4"
	ANTEMORTEM TRAUMA: Prolific osteophytic activity and lipping on the right mandibular condyle
	PERIMORTEM TRAUMA: There are no definitive signs of perimortem trauma noted
	TAPHONOMIC INTERPRETATIONS: - Remains found on the surface and exposed to the elements - Advanced stage of decomposition - Brown, leathery soft tissue present on posterior surface of the remains - Evidence of insect activity - Postmortem Interval: <1 year

INTRODUCTION

On November 20, 2025, Adserias-Garriga, D.D.S., Ph.D., D-ABFO, DLAF-cert, Program Director of the Master's in Forensic and Biological Anthropology at Mercyhurst University, Erie, PA, was contacted by Deputy Coroner Tommy Reinhard from the Dauphin County Coroner's Office regarding human remains found in a tent.

On November 24, 2025, the remains recovered by Dauphin County Coroner's Office and were brought to Mercyhurst Hirtzel Forensic Anthropology Laboratory (M-FAL) in North East, PA. They were released to M-FAL for a comprehensive forensic anthropological analysis. No formal recovery was completed by the Mercyhurst Forensic Scene Recovery Team (M-FSRT).



Figure 1. Overall photograph of the initial conditions of the remains upon arrival to M-FAL.

FORENSIC ANTHROPOLOGICAL LABORATORY ANALYSIS

On November 24, initial notation and documentation of the body bag and all associated material commenced. The body bag and all associated materials were radiographed using the Konica Minolta Regius Console CS-2 Version 1.30R00 Digital Imaging System. Written documentation was taken throughout the initial notation and continued into the processing of the remains.

The remains were contained within a white body bag with "John Doe- Norfolk Southern" Written on the exterior surface in black marker. The remains were mostly articulated with clothing present on the body. Upon opening the body bag, the body was positioned on its back with the cranium facing to the left and knees bent to the left as well. The left arm was flexed upward toward the shoulder while the right arm was in anatomical position with the hand skeletonized and disarticulated throughout the body bag.

The body was extremely stiff due to the leathery texture of the tissue. Most of the tissue found was present on the posterior surface of the remains. The anterior shafts of both femurs, as well as the right fibula and tibia were exposed. Most of the torso also consisted of exposed skeletal remains once the shirt was removed. The exposed lateral right side of the skull was also mostly skeletal. Tissue on the cranium was preserved with mold on the left side of the face. This mold continued down towards the neck and onto the back of the long sleeve shirt. The shirt was adhered to the back of the body by the mummified tissue. All bones associated with this individual displayed a dark tan color to them.

On the cranium there was black, curly, coarse hair mass present. This hair was also present on the mandible, indicating a beard was present on the individual at the time of death.

Clothing on the body included socks on both feet, a waffle knit long sleeve shirt that was inside out, and Hanes boxers, with no pants present. A white mold was present on the long sleeve shirt along with a dead maggot mass inside the shirt.

The remains were processed using scalpels, scoopulas, scissors, and enzymatic treatment to remove the soft tissue. Following initial notation and documentation of the remains, all skeletal elements and associated soft tissue were radiographed using the Konica Minolta Regius Console CS-2 Version 1.30R00 Digital Imaging System. The remains were assigned a Mercyhurst case number (MC25-081).

Inventory of Human Remains

The remains represent a mostly complete skeleton of an adult individual (Figures 2 and 3). The skeletal elements not present include the xiphoid process of the sternum, a manual distal phalanx, and a pedal intermediate phalanx. The left hand was not processed so as to try to get fingerprints. A complete inventory of the remains is available upon request.

BIOLOGICAL PROFILE ANALYSIS

Non-metric and metric analyses were performed to estimate the biological profile of the individual. These analyses indicated that the deceased was a Black Male, between 35 and 60 years of age (broad range) or 40 and 55 years of age (narrow range) at death, with a stature between 5'7" and 6'4".

Non-Metric Sex Estimation

Non-metric sex estimation was based on features of the os coxae and cranium as well as the overall skeletal morphology. Using ordinal scores of these three traits and the logistic regression equation provided by Kales et al. (2012), this individual was classified as Male with a posterior probability of 93.5%. Using ordinal scores of the five traits for the cranium and the discriminant function equation provided by Walker (2008), this individual was classified as a Male with a posterior probability of 88%. Using ordinal scores of the 13 variables (three unilateral and two binary skull traits and three bilateral pelvis traits) and the random forest classification provided in *MorphoPASSE* (Kales and Cole, 2018), the individual was classified as a Male with a posterior probability of 98.6%.

Non-Metric Ancestry Estimation

Non-metric ancestry was estimated using six morphoscopic traits described in Hefner (2009) and the optimized summed scored attributes (OSSA) method outlined in Hefner and Ousley (2014). When compared to U.S. Black and White individuals, this cranium most closely resembles individuals of Black ancestry.

Metric Ancestry Estimation

Twenty-four standard cranial measurements could be recorded in this individual and were compared to those of 1,140 individuals of known sex and ancestry through canonical variates analysis (CVA) in FORDISC 3.1 (Jantz and Ousley, 2010), following the guidelines outlined in Ousley and Jantz (2012). The individual classified as a Black male, with a posterior probability of 0.397. The F-Typicality score (0.298) indicates that the craniometrics of this individual are somewhat typical of a Black male.



Figure 2. Skeletal elements received by M-FAL, laid out in approximate anatomical position. Left hand was recovered but was not processed in the attempt to retrieve fingerprints.

Cranial metric analysis suggest that the individual's population affinity is Black.

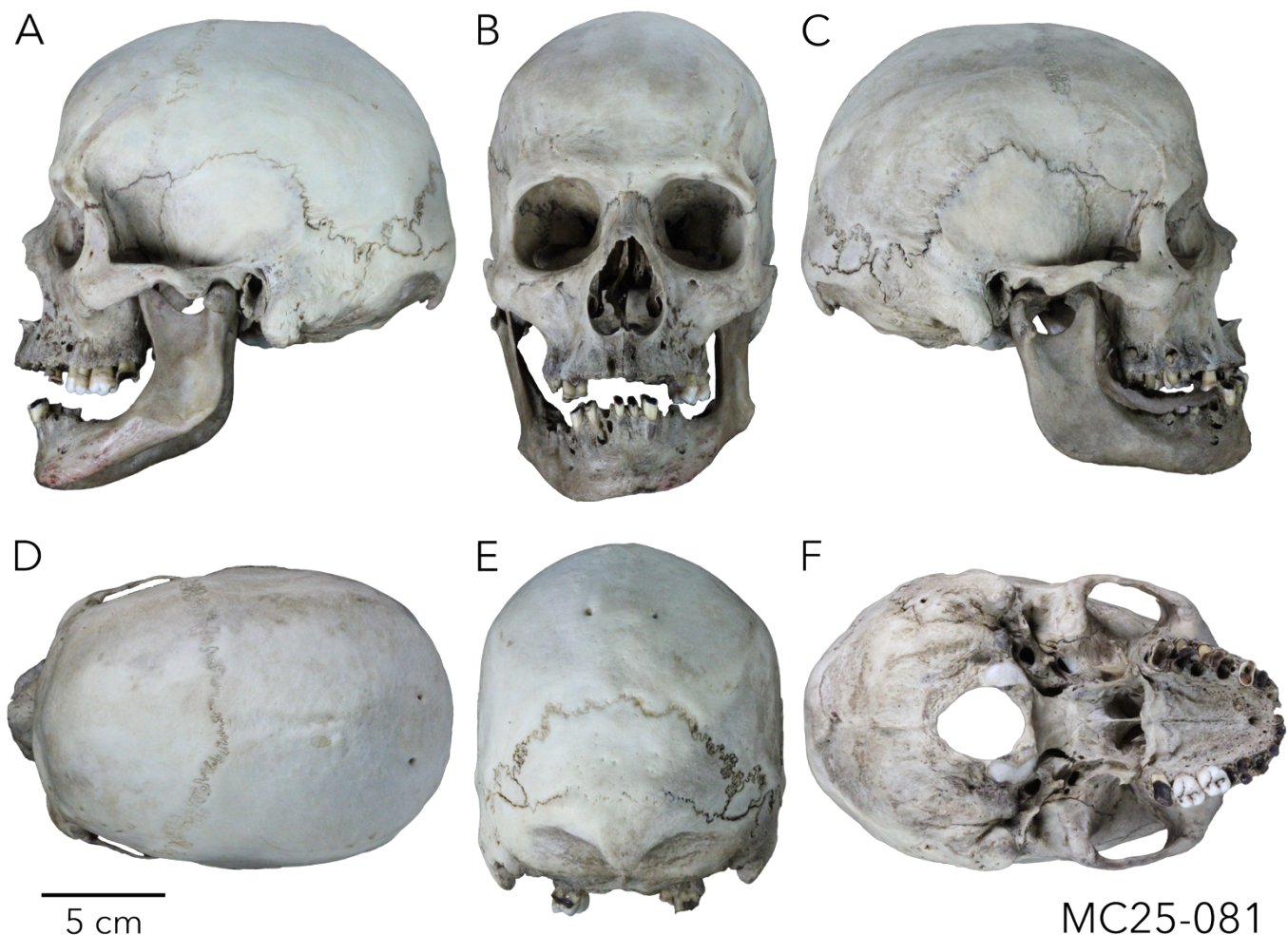


Figure 3. Six standard anatomical views of the cranium and mandible. Left lateral (A), anterior (B), right lateral (C), superior (D), posterior (E), and inferior (F).

Stature Estimation

Based on the sex and ancestry estimation, the stature of the deceased was estimated using postcranial measurements and linear regression equations in FORDSIC 3.1 (Jantz and Ousley, 2010). The individual's measurements were compared to a 20th century archaeological stature reference group consisting of U.S. Black and White males and females. The regression equation using the following measurements (FEMXLN+FIBXLN+SACAHT) displayed the highest correlation with stature. The 95% prediction interval indicates that the individual was between 69.4 inches and 77.2 inches (5'7" to 6'4" ft).

Estimation of Chronological Age at Death

Chronological age at death estimates were obtained from the evaluation of the fourth sternal rib end, pubic symphysis morphology, auricular surface morphology, ectocranial suture closure, and overall state of epiphyseal fusion. The Suchey-Brooks method (1990) was used to estimate age from the pubic symphyses and suggests an age range of 27-66 years. According to Hartnett (2010), the left fourth sternal rib end is consistent with an individual between 45.05-59.05 years of age.

The pubic symphysis, auricular surface, and cranial sutures were also analyzed using the computer-based age estimation program ADBOU 2.1, which utilizes transition analysis (Boldsen et al., 2002a, Boldsen et al., 2002b). The skeletal remains were compared to individuals in a forensic male reference sample. The results suggest a

95% confidence interval of 44.7-85.5 years of age at death and a 90% confidence interval of 47.7-82.2 years, with a maximum likelihood of 64.8 years.

Taking into consideration all the age analyses performed, the broad age range for this individual is estimated at 35-60 years, and the narrow age range for this individual is 40-55 years at the time of death.

INDIVIDUALIZING CHARACTERISTICS

Dentition

The decedent presented with permanent dentition of the upper and lower arches (Figure 4). Teeth #17, 18, 19, 30, and 31 were lost antemortem, while teeth #4, 7, and 8 were lost postmortem. Teeth #14 and 15 have caries on the occlusal surface. Most of the teeth present with some dental decay and damage to the crowns. Dental diagram and photographs are available upon request.

The right condyle of the mandible has extra bony growth and lipping extending both medially and anteriorly, with a small bony spur lateral to the condyle (Figure 5).

The first and second lumbar vertebrae both lack right transverse processes. Articulation facets are present instead.

SKELETAL TRAUMA ANALYSIS

For the purposes of this report, the term "perimortem" will refer to trauma experienced at or around the time of death when the bone retained its living (i.e., organic) biomechanical properties but no bony remodeling (i.e., healing) is evident.

Perimortem Trauma

No definitive evidence of perimortem trauma was noted on the skeletal elements.

Antemortem Trauma

"Antemortem" will refer to trauma experienced during life and showing signs of healing and remodeling.

The right condyle of the mandible exhibits extensive bone remodeling, suggesting healed antemortem trauma. The growth extends medially and anteriorly, with a bony spur present on the lateral surface of the condyle and pitting present in the glenoid fossa, indicated by the yellow oval (Figure 5).

FORENSIC TAPHONOMIC ANALYSIS

Since M-FSRT was not involved in the recovery of the remains and documentation of context at the scene, we are unable to comment on the original location of deposition or original position/orientation of the body. Based on the information provided by law enforcement and the amount, condition, and location of soft tissue, we can provide a general postmortem interval estimate.

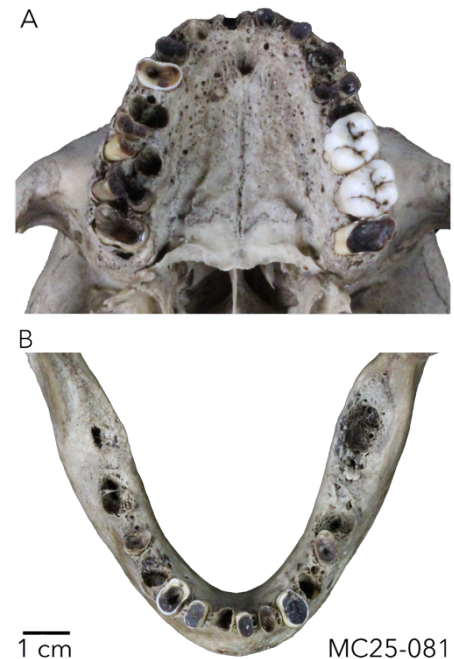


Figure 4. Occlusal views of the maxillary (A) and mandibular (B) dentition.

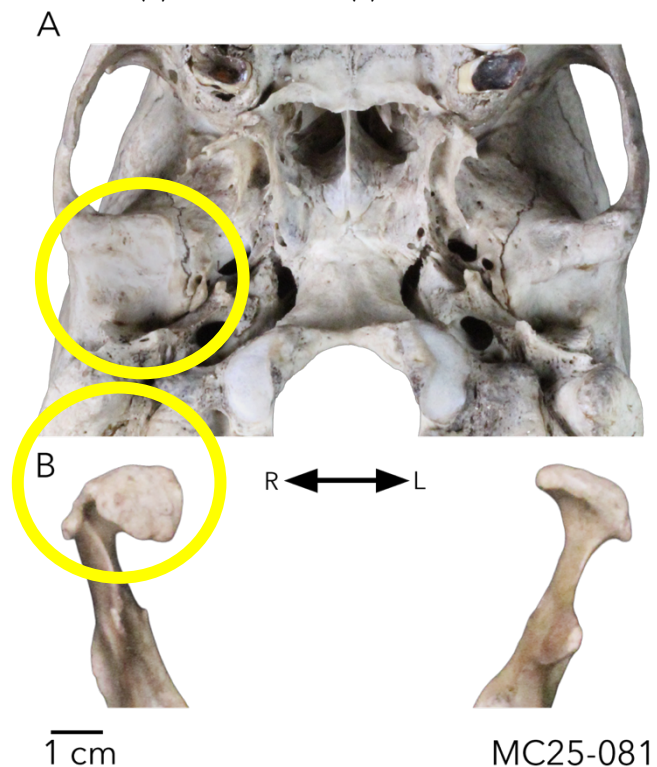


Figure 5. Right and left glenoid fossae exhibiting pitting as a result of trauma to the condyle on the mandible.

Summary and Forensic Taphonomic Interval

The body was found in a tent outside. There is no evidence of animal modification of the remains. The individual was clothed in underwear, socks, and a long-sleeved shirt. No pants or shoes were present when M-FAL received the remains.

Postmortem Interval

The postmortem interval (PMI) is typically estimated through the consideration of a number of factors noted at the scene, specifically soft tissue decomposition, insect activity, decomposition of clothing and associated in vegetation, including root formation and leaf litter. It has been suggested that even after one year minimal amounts of soft tissue can remain associated with the skeletal tissues, and that approximately two years are required for the removal of all soft tissue by natural processes in Pennsylvania (Dirkmaat et al., 2012).

In this case, though in an advanced stage of decomposition, the fact that desiccated, leathery tissue covered most of the body, suggests a postmortem interval of less than a year. Since the individual was found in October, it is suggested that the individual was deposited on the scene sometime after the middle of the summer.

SUMMARY

On November 20, 2025, Joe Adserias-Garriga, D.D.S., Ph.D., D-ABFO, DLAF-cert, Program Director of the Master's in Forensic and Biological Anthropology at Mercyhurst University, Erie, PA, was contacted by Deputy Coroner Tommy Reinhard regarding human remains discovered in Dauphin County. On November 24, 2025, the remains were delivered to the Hirtzel Forensic Anthropology Laboratory in North East, PA and released to Mercyhurst Forensic Anthropology Laboratory (M-FAL) for comprehensive forensic anthropological analysis. No formal recovery was completed by the Mercyhurst Forensic Scene Recovery Team (M_FSRT).

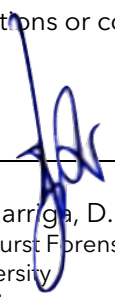
Based on a comprehensive forensic osteological analysis, the remains of MC25-081 are estimated to represent those of a Black Male, 35-60 years of age, with a stature between 5'7" and 6'4".

There is no evidence of perimortem trauma or animal modification of the remains.

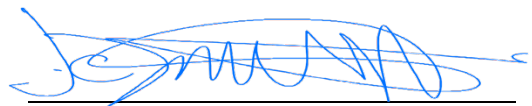
Based on the condition of the soft tissues present on the remains, a PMI estimate of less than 1 year, likely less than 6 months is suggested. A deposition time frame of mid-summer to October is likely.

If you have questions or concerns, please feel free to contact us.

Sincerely,



Joe Adserias-Garriga, D.D.S., Ph.D., D-ABFO, DLAF-cert.
Director, Mercyhurst Forensic Anthropology Laboratory
Mercyhurst University
501 E 38th Street
Erie, PA 16546
jadseriasgarriga@mercyhurst.edu



Dennis C. Dirkmaat, Ph.D., D-ABFA
Director, HD Forensics, LLC
4023 Alison Avenue
Erie, PA 16506
hdforensicsllc@gmail.com



Nicole Wray, M.S.
Visiting Assistant Professor
Mercyhurst University
501 E 38th Street
Erie, PA 16546
nwray@mercyhurst.edu

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